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BRADLEY'S "PRINCIPLES OF LOGIC."¹

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(*Concluded.*)

e. There is one other topic, the discussion of which will reveal the nature of Bradley's standpoint, but we might well hesitate to enter upon any consideration of it. That is the nature of the category of Subject and Attribute, which introduces us into the realm of inference. One might be disposed to think that already the nature of Bradley's fundamental doctrine had been taken from its concealment, and its connection with the principle laid down in the prolegomena ascertained. But while it can scarcely be expected to receive much new light, yet hitherto the question has been concerning judgment alone, and not inference. The work would be somewhat incomplete if the whole of inference were passed over in silence. Consequently, it will be our task in this section first to outline the connection of judgment with inference, and then to discover the general law which operates in every case of inference. Both of these will be in large measure but a repetition of what Bradley has himself done. Lastly, it will be

¹ "The Principles of Logic." By F. H. Bradley, LL. D., Glasgow, Fellow of Merton College, Oxford. London: Kegan Paul, Trench & Co., 1 Paternoster Square, 1883.

shown how Bradley has, in his peculiar conception of the one category of subject and attribute, failed to grasp the true theory in its entirety. It is at once apparent that much will be said which properly belongs to the third portion of the essay. The excuse is that we are now nearing the third portion, and are only anticipating a few things that probably, after all, find a more fitting place here than anywhere else. First of all, then, as to the nature of the connection between judgment and inference.

Inference, as distinguished from judgment, may roughly be called manner as distinguished from matter. When we judge we deal with propositions as in a sense formed materials. The propositions are held apart from our judging of them. We behold what we have done, not that we have done it. The result is of more importance than the process. If we could believe that matter was independent of mind, and that mind only arranged the materials given to it from without, and had to arrange them in a certain way, because, in fact, they were found to be in reality so arranged, then we could not know of such a process as inference. In a syllogism, judgment seems to be the external and particular side, while inference is the universal side, or the side of the thinking subject. If we examine the process through which we go in order to bring about such and such a result, we find that it is our mode of inference. Inference is no doubt found already in the material given to thought. The work of the mind may be said to be crystallized, and so in a manner materialized. It can thus be analyzed as though it were so much given material. No doubt, again, as we examine the product of thought, while we admit that in order to there being that product at all the thinker must have inferred, yet we have in the very examination made use of inference. The discovery gained by analysis, that in order to have the material before us the thinker must have inferred, is a new inference. Popularly speaking, the inference we discover may be styled a result, and the new inference a process. Or, again, we might say that the inference discovered was a result, that the process through which we went in its discovery was a process of inference, and that finally, by means of that process, we arrived at a new inference. But these distinctions are of no consequence. Inference may be looked upon as a process or as a result, according as we emphasize the thinking subject in the former or the thought object

in the latter. However, it is important to bear in mind that, whether it is looked on as a process or as a result, it is in the one case a process of thought, and in the other case a result of thought.

But, we may be asked, what of the materials given to inference, upon which thought works and out of which is to be obtained the new inference? And this is a question of considerable moment. These materials are themselves inferences, the results of former thought. They are not independent of consciousness, and thrust upon us from a world without, but they are facts, truths, thoughts. When we examine them we discover that they in turn have been obtained by inference from previously obtained facts, truths, thoughts. Of course, it is plain that our very examination of them proves conclusively that they are not now independent of our consciousness, and the very fact that they can be examined by our consciousness shows that they are not independent of consciousness. But, apart from that, they are actual results deduced from thought data. We may go back farther, and still farther, but no other result will be obtained than that, after our latest experiment, we have what we had at first—facts still complex, still reducible. If we have been looking for something which would serve for a starting-point, which would be itself simple and irreducible, we have failed. The very nature of the inquiry would predict our failure. If a thing can be absolutely simple, it can never be aught but that which is absolutely simple. If a point is without parts and without magnitude, one thousand points are still without parts and without magnitude. If a point is without magnitude, we might keep moving it forever, and (if we can understand the paradox) it would never move at all. But we have taken a compound and endeavored by a certain process to reach the simple. If the complex has been based upon the simple, it could not be a complex. Or, again, to say that a simple is based upon a simple is an absurdity. To speak of antecedent and consequent is to destroy the simplicity of the antecedent and of the consequent. Besides that, we are caught in the toils of our own process, for the more we analyze and subdivide, the more complex does our result become. Every new step backward is a new relation, and a discovery of still more primitive inferences. There is always this irony of thought manifesting itself at every attempt to get rid of thought. The more we simplify, the more complex our product becomes.

For, as we have just hinted, we have only to look at the series of inferences as a series of relations to comprehend at once that a step backward in the series is a new relation; and, if we keep on, we at last load the ever-fleeing simple with a burden of relations which it is unable to bear.

In all inference there is thought. Indeed, it is hard to discriminate at all between thinking and inferring. We have been accustomed to consider thinking and relating as synonymous, and now to these two must be added inferring. Bradley himself sees no difference between inferring and reasoning, looked at from the standpoint of the process, and there can be no difference between reasoning and thinking. Now, thinking or reasoning is uniting. That we have learned from Kant, who places all knowledge under the synthetic unity of apperception. All I know is *my* knowledge. All the various elements in the heterogeneous stock of odds and ends comprised under "What I know" are reduced to a single interrelated whole when it is seen that each and every item is related to the ego. When we say "Polly wants a cracker," we have, to put it in Bradley's words, related the ideal content, "the wanting of a cracker," to that portion of reality, the parrot, called Polly. We have united in one judgment these two elements. Examination would doubtless show that each of these elements is the meeting-point of other elements too numerous to mention, and so is not really elementary but complex. But, viewed from the standpoint of the judgment "Polly wants a cracker," the ideal content and the reality are properly called elements. Supposing, now, that we give utterance to the above proposition in the presence of Polly herself, and that the bird takes up the cry, it will not have gone through the same mental process as we. We cannot say exactly what mental process is performed by the parrot, but we have good reasons for concluding that it is not identical with our own. It does not, then, unite, think, relate, judge, infer *consciously*. To do that seems the privilege of man. But what we wish to arrive at is that, though man may relate consciously, is it not possible for him to be at times pretty much in the same position as the parrot? Are not many things said and done many times by many men parrot-fashion? If so, then it would seem that a man might speak without inferring, but only, be it noticed, if he could speak

without the slightest spark of consciousness. The words thus uttered would be a judgment in form but not in spirit.

But this leads to a point of more immediate interest. We have seen, by the preceding inquiry, that for consciousness judgment was never a mere matter of words, that just because it was for consciousness there was a relation which made of the elements a new whole. Without consciousness the elements would still remain elements, no matter how often the sound was repeated. With consciousness a new thing was produced, or, as might be said, something was added to our information. We have come upon the old question of Analysis and Synthesis. Analysis pure and simple is an impossibility. To analyze a notion, sticking no matter how closely to the notion, and then to express the result in the form of a judgment, is to infer. Mere analysis for a human being would land him at the position of a parrot. In all thinking, therefore, there must be a synthesis, and some new thing is added to our information. This may not be accepted, and in one sense it may not be true. Many, especially those who are secluded and have little opportunity of coming into contact with people or books, have but few ideas, and these ideas are made to go the rounds, so to speak, and to do yeoman's service every day of the week without variation. Can such be said to be adding anything to their information? But these objections are aside from the point. A farmer, for example, may say every day of the week, and every week of the year, "Fine morning to-day!" but the expression has or has not significance. If it is utterly meaningless (and we doubt if it can ever be), the farmer has not thought, and is so far on a level with the parrot. If it has meaning, it is a piece of information, for we could not have said it yesterday. But by analysis may be meant that simple iteration which means nothing. For instance, it is asked, What is a boat? Answer is made, "A boat's a boat, that's what a boat is." That may be called a vain repetition. If so, it is not identical with, but directly contrary to, analysis. If there were analysis there would be a meaning in the answer. To analyze "boat" and get "boat" is surely a very impotent procedure. It is no analysis at all. Yet, if we want to see the germ of inference even here, it has only to be shown that the answer emphasizes the existence of the boat—or, if any one is inclined to cavil, the answer plainly

demonstrates the man's inability to define the object in question. It therefore points to this judgment, viz., the referring of the inability to define to the individual questioned.

From the above it may have been already gathered that judgment and inference are essentially one. If the conclusion of a syllogism is taken as an example, it may be viewed as a judgment when special regard is had of the matter it contains. It may be viewed as an inference when it is considered as following from the premises. One and the same assertion might be viewed as a judgment or as an inference; to put the matter in another light, according to the word or words upon which was laid the stress of the voice. If I say, *e. g.*, "It is white" in such a way as to emphasize the simple existence of the object, that might be called a judgment. If, on the other hand, I say it in such a way as to emphasize the particular mode of existence, it might be called an inference. Or, again, remembering that thought is the relation of an ideal content to reality, we might call that a judgment which made peculiarly prominent the reality, and that an inference which rendered prominent the ideal content. He who judges would seem to be immersed in the external present. He who infers would seem to be looking beyond the present, and gathering together its relations. It is easily seen that these are mere distinctions and not radical differences. In truth, there can be no real difference between judging and inferring. I suppose that they probably deserve some separate treatment, and yet a separation of them even in treatment tends toward a separation in actual fact, and Bradley has, it may be unwittingly, fallen into the snare. As soon as we permit ourselves to entertain the notion that judgment and inference are separable processes we have suffered to gain admittance that insidious theory which will continue to propound that the existence of an object may be separated from its relations. With that the unknowable has already been set up. So much do we do when we with nothing but the most innocent intentions imagine that we may judge before we infer.

Bradley has himself (p. 386) expressed the points of agreement and difference between the aspect of judgment and the aspect of inference. "A is" is a judgment; "A must be" is an inference. He says: "Any judgment whatever may be turned into reasoning by a simple change. For we have merely to suggest the idea of

the opposite—we have only to suppose that the truth is otherwise—and at once the predicate, which we already possess, excludes that suggestion, and returns to itself as what *must be* true. It now is real *because* it must be so; and it is necessarily truth, for it has entered the field of ideal experiment, and returned victorious." This is admirable. But Bradley, not content with exhibiting the difference of aspects, goes on immediately to assert that such difference of aspects can only be accounted for by root differences. He continues: "This process may seem frivolous, since it turns in a circle. Frivolous it undoubtedly is when applied to judgments, but it is very different when used on mere ideas. Take any idea, suggest it of the real, and find it compatible; bring it into collision with other ideas disparate with itself, see that it defeats them in open competition, and then go on at once to assert its truth. Valid or invalid, it certainly is inference." From this we conclude that while inference is the manipulation of an idea, judgment is at least not that. Afterward Bradley becomes bolder, and says that judgment has to do with "suggestions of sense!"

These are, however, the dividing lines between judgment and inference in Bradley's estimation. (a) Judgment may be circular; inference cannot be circular. "A is because it is" is a circular judgment, *i. e.*, it tells us nothing that we did not know, it adds nothing to our information, and yet it cannot be denied that it is a judgment. This case was dealt with before, when we made use of the illustration of the boat. But Bradley would now say that "A is because it is" appeals to the fact of our seeing or touching, or having seen, or having touched, the object in question; but it gives no reason for its existence, *i. e.*, the judgment "A is" rests upon a suggestion of sense! But A may not be present to sense; it may be present to thought. Even so, if the judgment "A is" rests mainly upon the fact that we know it is, that is giving no reason for its existence. We have not, then, inferred its existence from anything. At first sight this view would seem correct. But it has come to a decision too hastily. Instead of saying that we have not inferred its existence from anything, it is only entitled to say that we cannot call to mind the reasons why we judged that A is. Accordingly, when we repeat with emphasis "A is because it is," we are actually maintaining that while we cannot make "A is" an explicit inference, we will continue to hold that the reasons,

though unknown, are undoubtedly there. (b) The second objection is but a repetition of the first. Bradley says: "Judgments may be received from others, and these are not inferences." One may assert "A is" merely from hearsay. But if I assert "A is," because I was told so by one upon whom I can rely, I mean that "A is" is an explicit inference for my informant, though but a concealed one for myself. Or again, if I vehemently assert "A is because it is," when a friend of mine is my only authority, my statement is equivalent to the judgment "My companion is veracious." So long as words possess meaning, and meaning for the person using them, for that person they are an inference. (c) The third objection is only a repetition of the first and second. "Judgment rests on suggestions of sense, and these suggestions are never uniform." "Suggestions of sense" is an ambiguous phrase. It may mean "suggestions by the senses," or "suggestions by the mind which have arisen because of a certain sensation." If we mean the former, then sensations are independent of consciousness, and the mind is passive while receiving them. This interpretation will scarcely hold water, and is a repetition of the old fallacy. If it means the latter, then "suggestions of sense" have been resolved into suggestions of the mind, or, in reality, judgments, and the difficulty has melted away. (d) Bradley, in the opening of Chapter III, raises a man-of-straw objection by saying that sometimes we judge of X by sticking on Y to the outside. In that case the Y is not a function of synthesis. We judge, therefore, but do not infer. True, Y is far from being a function of synthesis in that case. It is nothing at all. In some inexplicable way it comes from without, and is tacked on to X mechanically. Bradley says this is not inference, and he is right. But it is neither inference nor anything else but nonsense. If, however, Bradley will maintain that the tacking on is done by thought, then Y cannot come from without, and X-Y is an inference. It may be the most nonsensical thing imaginable, but it is still a nonsensical inference. Unless, indeed, Bradley is prepared to cut out from the region of inference all that is false, malicious, or frivolous, he must admit that X-Y is an inference, even though X-Y should be "The moon lays eggs." If it is a judgment, it must be an inference. If Bradley will argue against its being an inference, every argument he brings forward will tell against its being a judgment. (e) Bradley next says that

Reproduction is not always inference. Here he enters psychology, and we may well refuse to follow him. But he says: "An object may excite vague feelings of pleasure or a dim sense of pain. Now, we may not say that such object is the cause of such pleasure or such pain, and yet we know we have the pleasure or the pain." To this it can be replied that, if we know the pain as *our* pain, or the pleasure as *our* pleasure, we have referred the feeling to the self, and so inferred. If, on the other hand, *we do not know* that a certain object is the cause of the feeling, then, of course, we cannot infer it. We can only infer that it has a cause, because that is given in the effect. If so, then it is absurd to talk of the object being a *datum*, for the object is not given at all. We do not know it. The datum is our feeling, and it is on that that we have built. Bradley supposes that something beyond consciousness can in a *vague* and *dim* way (very much Spencer's words) exist for consciousness—so vague and dim that, although there, nothing can be inferred.

A short review of Bradley's essential position may be given before proceeding further. In this portion of his work he has woven about himself a web from the meshes of which he has found it impossible to extricate himself. Beginning, I believe, with the, it may be, unreflected conviction that judgment and inference were practically identical, he treated first of judgment and then of inference. Tyrannized over by the progress, in time, of his own work, he is led to consider that some difference, more or less radical, must exist between them. Hurried on by this pressure from behind, he has ventured not simply to leave it an open question whether or not he did actually separate between the two, but to set down in order some fundamental disagreements, and these once again conduct him to the unknowable. Such were the stages of his downfall.

The next point is to state and explain the general law which underlies every possible inference. Here Bradley becomes polemical. Provisionally there is set up the principle, "Related to the same are interrelated." Bradley, with considerable show of reason, maintains that such a law is too loose and wide. "A runs faster than B, and B keeps a dog (C)" is an example of the above rule, and yet we cannot relate A to C, *i. e.*, we cannot draw any inference from such premises. It follows, then, that we must cur-

tail the principle. After curtailment, it assumes the shape, "Related within the same category to the same are interrelated." The difference between the second and the first seems one of importance. There has been added the qualifying phrase "within the same category." Bradley, however, now wishes to prove that, while the former was too wide the latter is too narrow, for in peculiar cases you may pass from one category to another, so that it is not always "within the same category." The peculiar cases are all connected with the category of Subject and Attribute. Bradley gives as examples of this: "Gold is heavier than lead, and lead is a metal." "A = B, and B is in my pocket." Here, undoubtedly, we pass from one category to another, and we have in both cases the category of Subject and Attribute. If, then, we can draw a legitimate conclusion from the premises, we have proved that the principle is too wide. The inference which Bradley draws from the second example is "A = something which is in my pocket."

Two questions might very fairly be asked at this juncture. First, is the principle "Related within the same category to the same are interrelated" essentially different from the principle "Related to the same are interrelated"? Secondly, if so, is Bradley's criticism against the second form of the principle valid? Any attempt exhaustively to answer the first question would lead to a discussion, the length of which would be quite out of proportion to the size of this essay. The answer given to it depends altogether on the construction put upon the phrase "the same" in the law "Related to the same are interrelated." In the example quoted, "A runs faster than B, and B keeps a dog (C)," B in his capacity of runner, and B in his capacity of dog-owner, are considered "the same." If no objection is taken to that view, then Bradley is correct. But exception, I think, may very properly be taken to that view. In the judgment "A runs faster than B," B is looked upon as a runner, and only those qualities of B are introduced which go to make him capable of running a race. In the judgment "B keeps a dog," B is now present in an entirely different capacity. B as a runner and B as possessor of a dog are, for logical purposes, two quite distinct beings. It might justly be objected, then, that the above example contains the fallacy of *quaternio terminorum*. But at once Bradley might answer, "Yet

'the same' must include differences. If you exclude all differences you at the same time do away with your identity; if you retain any differences you leave room for the fallacy of four terms." The reply seems to be that so long as the differences are differences in an identity, which identity is the very point made prominent in the judgment, then the argument is not fallacious. "A runs faster than B, and B can outstrip C," are premises from which any one can deduce an inference. "The same," in this case, is B as a runner. B as a runner is not a point; he is not mere identity, but an identity amid differences. He is present in the same capacity in both judgments, while the differences are precisely all the varying qualities which united make B the runner he is. Change these qualities and you still have a racer, but one who now can get over the ground with increased, or, it may be, with diminished, speed. Here, again, is sameness amid diversity. Accordingly, if this interpretation be correct, the second form of the principle, "Related within the same category to the same are interrelated," is, after all, only an explanation of the first, and so far it has not been successfully assailed. But the second question now awaits an answer. Is Bradley's criticism of the second form of the principle valid? In support of his criticism he gave two examples, already quoted, viz., "Gold is heavier than lead, and lead is a metal," and " $A = B$, and B is in my pocket." The inference he drew from the second of these was likewise given, viz., " $A =$ something which is in my pocket." Is this a valid inference?

Now, we already know that B is in his pocket; but there may be (and the possibility is all that is required) C, D, E, X, Y, Z in his pocket too. The inference, notice, does not mean that $A = C$ or D or Z. The inference really is " $A =$ a *particular* something which is in my pocket." It will be hard to see wherein that conclusion has added anything to the premises " $A = B$, and B is in my pocket." Again, it might be urged that the inference should relate the extremes, and not an extreme to the middle term. In the above example the pocket is the third term, and Bradley has established no relation between it and A. But he afterward replies that it makes no difference what the inference is, provided it be a new relation. The inference may consist in a new relation between A and B. But no number of relations between B and C, D, etc., will make a new relation between A and B. No number

of attributes of B alters in the slightest the relation between A and B. The relation existing between A and B holds good irrespective of the relation which B may bear to other things. The relation of A to B allows, in its very statement, for new attributes of B, or new attributes of A. A or B, when attributes are added to it, is, it is true, in a sense altered, *i. e.*, we know more of it. It would seem as if, when B was altered, the relation between A and B would be altered as well. But the relation between A and B is a specific relation, and, unless B is changed so as to affect that relation, no change is made in the relation. $A = B$ is a relation of equality, say of weight. We may discover that B is hard, white, without taste, in a certain place, etc. But these relations do not affect its weight, so that our discoveries make no change in the relation of A to B. Bradley might hereupon reply that we may know, *e. g.*, that A is white, and we may not know that B is white. We experiment, and so discover that B is white. Will that not modify the relation subsisting between the two objects? They may have been equal as regards weight before, and their equality might have been known, but is not the relation of whiteness a new relation? Certainly, we answer. But notice now your syllogism:

A is white,

B is white.

∴ So far as color is concerned, A and B are alike.

In this syllogism you have not crossed from one category to another, but have remained throughout within the category of subject and attribute.

A somewhat similar criticism may be adopted in the case of the first example. This is Bradley's complete statement. "Gold is heavier than lead, lead is a metal, therefore, lead-metal (*i. e.*, some metal) is lighter than gold, or metal may be lighter than gold." We may surmise that Bradley's evident anxiety to get a respectable-looking conclusion out of the premises indicates his fear that the conclusion is not altogether valid, and so it turns out. For (a) we may set aside the conclusion, "Metal may be lighter than gold," because that is only a weaker statement of the first conclusion. It only means "Metal may be lighter than gold, if it is lead," *i. e.*, "Lead is lighter than gold." (b) We may, secondly, do away with the bracket "some metal," for that only means "some particular metal," *i. e.*, "lead." Our conclusion then is, "Lead is

lighter than gold," or, "Lead, which is a metal, is lighter than gold," at which no one will be greatly astonished who already knows that gold is heavier than the metal lead.

Bradley, in order to account for what he thinks he has proved, viz., that we may pass from one category to another under peculiar circumstances, states that the categories are not all on the same footing. Now categories, as categories, must be on the same footing or else they are not all categories. Spencer has taken very much the same position in his "*First Principles*." There he tries to maintain that space, time, matter, etc., are *ultimates*, and yet wishes to prove that they are reducible to force, *i. e.*, that there is an ultimate behind ultimates. Such a position, it is plain, if we attach any meaning to words, sacrifices either the ultimate or the ultimates. So with Bradley, if there is one category which has claims upon the term category, upon which the rest of the categories have no claim, then the rest must be set aside. It or they are not categories. So far as we have yet gone, we have not found that the category of subject and attribute has any title to uniqueness.

Once more, in the chapter on Fresh Specimens of Inference, we have an opportunity to observe Bradley's idea with regard to Subject and Attribute. In that chapter he is engaged in a hand-to-hand conflict with the principle "Related within the same category to the same are interrelated." It is not our concern any longer to take part in the fray. But from a fitting point of observation we may descry the nature of the struggle. Emphasis will thus be laid upon the motives of the combatants. Apart altogether from metaphor, it may have been noticed that Bradley had as yet only generally dealt with the above principle. Now he brings to bear upon it a multitude of concrete specimens of inference. He marshals them under (a) Three term constructions, (b) Arithmetic, (c) Comparison, etc.; but that particular subdivision interesting at this time is A (ii) in which he maintains that an attribute and a relation are two distinct things, and that therefore a subject might possess an attribute without being related. He says, "But there follows close a further consequence. We have reasoned to a whole C-B-A, and this whole may have a new quality, X. But, if so, we have reasoned from terms in relation, C-B and B-A, to no new relation but to the presence of a fresh

quality; and hence, once more, our formula has broken down." By "formula," Bradley means the general law of which we have been speaking. This whole quotation is a consequence of what Bradley believes he has proved in a preceding paragraph. He there said, "If A is given to the right of B, and B again to the right of C, I may judge that the terms are arranged as C-B-A." Bradley would desire to show by this that the general law is too narrow, for C and A are both related to the same thing (B) within the same category, and yet the conclusion is not an interrelation of C and A, but a new whole C-B-A, in which B plays as distinguished a rôle as either of the others. By means of the critical process already employed it might be easily seen that the real whole is C(-B)-A, *i. e.*, B is not otherwise present than to show the new relation between C and A. The relation C-B is a premise; the relation B-A is a premise. Therefore the conclusion cannot be concerned with either of these, for these it already has. It is concerned, however, with the relation of C-A, and of course through B, so the new relation may be written C(-B)-A. But this is not the present question. Bradley states (*cf.* quotation) that from the premises C-B and B-A we *by reasoning* reach not a new relation but a quality, X. In obtaining C(-B)-A, if reasoning is relating, and if we have reasoned at all (Bradley acknowledges that we have), then we must have reasoned to a *new relation*. No doubt there may arise one thousand qualities—one thousand Xs—on the discovery of the new relation. The perception of each one of these qualities is just another inference. But that has nothing to do with the present discussion. If we have not a new relation in the whole C(-B)-A, then the quality X can be found in C-B and B-A without putting them together as C(-B)-A. The finding of such a quality in C-B or B-A is a process of inference. If, on the other hand, we have reasoned to a quality from the fragments C-B, or B-A, then we have no whole C(-B)-A. But Bradley, for the sake of clearness, gives an illustration: "I sail round land, and reconstruct my course by a synthetic process, and the whole shore that I combine is then interpreted as belonging to an island. A-B, B-C, C-D, D-F, F-H become, when united, the perimeter of the island, and from this circular frontage I go to the name and the other qualities possessed by islands. The circular shape and self-contained singleness are more than the mere interrelation of the

premises, and need not be got from previous knowledge of islands. You do not go outside the construction to get them, the whole would not be itself without them; and yet they are another side of that whole, which is distinct from the putting together of the parts. But, if so, surely you have reasoned to a quality." Let this illustration be taken up step by step. (a) To obtain this perimeter you must make a series of inferences ("synthetic process" of Bradley) thus, A-B, B-C, A-B-C, etc., etc. When we have completed the series, we have A related in a certain way, *i. e.*, through B C D, etc., to H, and that is all. But here there may be some confusion, owing to the fact that, while Bradley has hitherto taken A B, etc., to be points, he now means them to represent lines. The truer form of the inference will therefore be "The line A B is of such a shape (arc of 60°), the line B C is of such a shape (60° more), therefore, the line A C is shaped thus (arc of 120°)."
In process of time we would get a circle, or something like a circle. That is the first step. (b) This shape is then in Bradley's phraseology *interpreted* as belonging to an island. It is easy to conceal a world of meaning in a word. Bradley had once before unwittingly covered up a theory under unphilosophic words, and this is another instance. What is the significance of "interpreted," when itself interpreted, but this? "An island is a piece of land surrounded by water; we have sailed round this piece of land, \therefore it is an island." The term "interpreted" thus conceals an additional inference. (c) Bradley has from the circular frontage, or shape, gone to the name. We have expanded the manner of his going. He adds, "From this circular frontage I go to the name and other qualities possessed by islands." But the name of an island is not one of its qualities. The name has a meaning, and, when it is understood, it will furnish all the qualities that belong to an island as an island. We have, then, got no *other* quality so far. But Bradley replies, "The circular shape and self-contained singleness do not come from interrelation of the premises, and need not come from previous knowledge of islands; and yet we could have no whole, no shape without them. Without the shape we could not have the interrelation." It seems like a contradiction to assert with one breath that the circular shape does not come from the premises, and with the next to assert that the shape and the premises are inseparable. But it is

not a contradiction. Bradley has here failed to distinguish between shape and circular shape. It is evident that he is much more intent upon the picture he has drawn in his book than the imaginary sail and the imaginary island, so you may turn to that. The argument will then read, "The line A B is such a line, the line B C is such a line, \therefore the line A C is such a line." By a series of inferences we get a figure; it may be circular, or again only rounded, or again square. But that is all. We do not even obtain a knowledge of the shape as a particular shape without comparison, *i. e.*, in truth, without further inference. Because we have drawn lines, there must be shape, but certainly not a definite shape, unless we know beforehand the shape we meant to draw. That would be equivalent to a "previous knowledge of islands" in the illustration used above. The inference in full is in any case, whether we have a previous knowledge of the shape, or whether it was necessary to perform measurements after the shape was drawn: "A circle is of such a nature, this shape is of such a nature, \therefore this shape is or is not like a circle." The circular shape, accordingly, does not come with the mechanical draught. The original outline gives out no occult essences which strike us unawares, and are then called qualities. The particular shape of the island or the picture is certainly a quality of that island, but a new inference has added that quality to our knowledge of that particular piece of land.

We are, perhaps, now ready to receive from Bradley an announcement which without preparation might have caused uneasiness and alarm. It is one thing vaguely to insinuate that so and so may be your view, and quite another thing to bring it into the broad daylight. Bradley is about to come forth from his place of concealment. If I have been understood to this point, one thing at least will have been made clear. That is, that to be conscious of and to relate are convertible terms. It is true that consciousness may, and often does, relate unconsciously. That fact only affords adscititious evidence that relating is not an arbitrary employment of thought. It only adds weight to the assertion that, whether it will or not, thought must relate. The quality of an object will, if known, be a relation for the percipient subject. A quality that is not a relation will flee definition and be lost in the shades. In opposition to all this Bradley drops a feeler, so to

speak, when he says (p. 3), "The complex of qualities *and* relations which a fact contains makes up its content." If the reader has perused only the few lines which precede the quotation he will only be able to wonder why Bradley said "qualities *and* relations," and whether he intends afterward in any way to distinguish them. After much hesitation, he states his view (p. 264), which leaves us still in doubt as to what he thinks is the difference between quality and relation. He confesses (cf. note, p. 264) "The ultimate connection of quality and relation is a most difficult problem," but leaves us to infer that though possibly, if any one could dig sufficiently deep, he might find that these two had coalesced, yet, first of all, can you dig so deep? and, secondly, for practical purposes, you certainly do not. This answer means that metaphysicians may be left to debate the question. Logicians must accept a difference between qualities and relations. It is an old device of Bradley's to shift the responsibility of proof from logic to metaphysic, and then naively to assert, "I am not at present dealing with metaphysic." But his readers are not always satisfied with being deluded into believing that they are in pursuit of something with flesh and blood, and then being left suddenly to hobnob with a ghost. Besides that, they cannot help suspecting that Bradley was himself uneasy upon the question, and did not care to be too hard pressed. It may be a thankless task to run the fox to ground, but the first remark that comes is, that the dividing wall between logic and metaphysic is not so high as Bradley seems to think. They merge imperceptibly one into the other. When you are dealing with logic you are dealing with metaphysic, and no amount of vigorous shaking of the head will serve to contradict that fact. The next remark is that, as logic and metaphysic are at least the same in kind, no distinction between qualities and relations which is not valid for the one will be valid for the other. If, ultimately, as Bradley says, qualities and relations are reducible, then they should never be separated. If, that is, when looked at in the truest light, they are found to be identical, is there any excuse for looking at them in any other light? or is logic a perversion of metaphysic? The fact that, with the above in view, Bradley still maintains that, for logic, qualities and relations must remain distinct, makes his readers believe that, when he further says they are ultimately reducible, he contradicts himself. If

he contradicts himself, which position is the one that enters into the life of his theory? Our whole discussion has gone to prove that the view that qualities and relations are distinct things is the one which is sometimes more plainly, sometimes more dimly, seen to constitute the backbone of nearly every chapter of his work.

The question of the connection between quality and relation is one with the connection between the principle of identity and the principle of difference, the principle of synthesis and the principle of analysis. Almost in so many words Bradley says that the qualities of an object constitute its sameness and the relations its differences. It would be hard for Bradley to state what was the sameness of an object apart from difference, but his words seem to indicate that an object might have sameness in one part of it and difference in another. He is still at the materialistic point of view, and introduces temporal and spatial relations where there are none. This is seen in his illustration of the sun. The sun is at once a fiery mass and has rays. The fiery mass constitutes the sameness or identity of the sun. The rays constitute its differences. The former contains its qualities, the latter are its relations. Thus he at once places identity and diversity on different levels. This is perfectly consistent with other portions of his work. Qualities are not relations for him, though these two may be the same for those engaged in metaphysical subtleties and *vice versa*. Qualities seem to belong to the thing *per se*, relations connect that thing with others. With regard to the object itself, qualities are positive and relations negative; with regard to the world at large qualities are negative and relations positive. There is certainly a plausibility about the theory put in this light, but it is only the plausibility of names. When we cast away the relations we still have the qualities, and we ask Bradley what they are. The answer, most likely, will be, "The object is in itself white, hard, etc." But we need not stay to show that without comparison and relation we never would have had whiteness nor hardness. Besides, the mere giving of the name casts to the winds the whole theory. Either these qualities are connected *as qualities* one with another, or else each quality must be erected into a separate and independent object. If so, will the new object have qualities? You are in the toils of an infinite series. Further, if each quality is something peculiar, then for that very reason it is

related by exclusion both to relations and to its brother qualities. The more you box up an individual quality, or the more you are determined to keep it distinct, the stronger have you made the bond of relation. "I am not" may convey as much meaning as "I am." Here once more there crops up Bradley's desire to exalt the category of subject and attribute. Time, space, etc., etc., are relations. Let them stand aside. Subject and attribute hold the same connection with each other as the object and its quality. Let it be admitted into the *sanctum sanctorum*. But the word "quality" implies something of which it is a quality. The quality is *related* to its subject, and thus relations have with impious hands violated the sanctuary.

It only needs to be added that, when you separate between quality and relation, you obtain something not a relation, something, *i. e.*, which cannot be specified or defined. The quality of an object apart from its relations comes to mean the inexpressible or the indefinable. You are not then very far removed from the old bug-a-boo, the unknowable. But that has now almost ceased to frighten.

The third and last portion of our work is now begun. To it was assigned the task at least of enumerating the portions of Bradley's book which have been tried and not been found wanting. Little more will be done than to present the positive truth in the "*Principles of Logic*," free from admixtures with (*a*) what was true, but negative, *i. e.*, the critical portion of his work, and (*b*) what in his positive theory has failed to make its peace with the principle laid down in the introduction. No endeavor will be made to furnish a synopsis of what Bradley has himself done, but simply to make more clear the logical nexus. That will in all probability bring to the surface what for a casual reader of Bradley might be wholly overlooked. The first step in this not very gigantic project has happily been already taken. That was the showing that judgment and inference were not two different processes, but essentially one. That at once lessens by half the seeming magnitude of our enterprise. It will not be necessary, when a certain position has been taken with reference to judgment, fox-like, to double on our track, and prove the same position with regard to inference. When it is done once, it is a pleasure to know that it is done once for all. With this assurance there is left still the following—to

trace from the beginning to its end an act of judgment. Starting from the potentiality of judgment, that is, the fact of knowledge, and selecting in a manner arbitrarily a particular object or event, we may in imagination follow along the path over which thought must travel until it reaches its goal. This goal is the positing of another fact of knowledge. Taking our departure from knowledge, we make our journey and return upon knowledge with an additional fact. Thus our knowledge has been increased. Here all such questions about the repetition of the same words fail to disturb us, as they undoubtedly occupy a lower plane. They are merely temptations placed in the way to obstruct a free inquiry.

It might be stated at the outset that the above plan will find a starting-point in the disjunctive judgment, and will proceed through the hypothetical to the categorical. In so doing, a principle is called into exercise which is variously known by the names of Analysis and Synthesis, or Identity and Contradiction. This method exhibits the forward movement, or the movement from the point of view of synthesis. Bradley has adopted a somewhat different plan. He has begun with the categorical, and shown how first of all it implies the hypothetical, and next the disjunctive, and then discussed the nature of the underlying principles. That plan exhibits the backward movement, or the movement from the point of view of analysis. Both start from knowledge, Bradley from a given fact exhibiting by a *regressus* its essential connection with the mass of facts, we from the facts of knowledge proceeding toward a single fact.

First of all, then, we must posit knowledge. Any attempt to get rid of knowledge ends always in self-contradiction. The denial of knowledge is itself knowledge. If any one should shrink from denying out and out the existence of knowledge, but should at the same time affirm modestly that he cannot say whether or not there is knowledge, even then there is implied in his statement that he knows that he doesn't know. If he disclaims even that knowledge and says, "I do not know that I know that I do not know," we can retort that that is still an unqualified assertion, and, so far, knowledge for him. If he recedes further, it will soon take him more than one or two breaths to announce his real position, and we can leave him unburdening himself of his weary and monotonous load of ignorance to the only things that will exist

long enough to hear even the end of the beginning—the everlasting hills. It is true that in the history of the individual there can be reached a point of time when for him there was no knowledge, but that is not at all the question. It is no objection to show that individual knowledge must have an absolute beginning in time, for knowledge exists quite apart from any individual. It can certainly never be known that there was a time for universal consciousness when there was no knowledge; for, even if such had been the case, consciousness could never have become conscious of it. To be conscious of and to know are synonymous terms. To say that for consciousness there was a time when there was no knowledge is to say that consciousness could be conscious that it was not conscious. It asserts that consciousness can be both conscious and not conscious. It is plain, then, that, even if consciousness had a beginning, it cannot be conscious of its own beginning, and, therefore, for consciousness there can be no beginning. We must then posit consciousness. But consciousness left to itself would be forever a blank. For consciousness to be conscious of itself, it must at the same time be conscious of the not-self. So at once for the realization of consciousness arises the distinction between the self and the not-self. This distinction of the self and the not-self is for the self, so that the self and not-self do not fall apart into hopeless dualism, but are united into one whole. This distinction, which is no more a discrimination than a union, arises from the very nature of consciousness, and is an act of knowledge. If we posit consciousness, we must posit knowledge.

Having obtained a single piece of knowledge, we require no other examination to explain all the knowledge that we possess. But it cannot be asserted that, because consciousness could not be consciousness without actual knowledge, therefore we, as conscious, have all knowledge. That would be ignoring the distinction between potentiality and actuality. While consciousness, to be consciousness, must posit knowledge, it does not therefore posit as actual all possible knowledge. Consciousness only asserts that, while I know such and such things, I have at the same time the capacity to increase my knowledge. This has already been treated of in the introduction. We conclude, therefore, that the very nature of knowledge compels a search for further knowledge. Having actual knowledge, with a capacity to know more, and that

combined with the conviction that there is more to be known, we are ready to maintain that it is a necessary and imperative step, though possessed of knowledge, for us to endeavor to extend it.

Knowledge may be extended in many very divergent ways. These ways are the different branches of science (in its widest sense). Every branch becomes, in one sense, an independent whole, itself capable of infinite extension. It again ramifies into numerous subdivisions, until finally the vast system of knowledge becomes so complex and intricate that one human intelligence has to be satisfied with becoming acquainted with a small fraction. Now, consciousness, while testifying to the fact that it is capable of knowing, never drives, necessarily, into one particular channel of knowledge. External causes determine our particular course of study. When we, in consequence, for logical purposes, select a single act of knowledge for examination, the selection must be arbitrary. Let the subject, arbitrarily chosen, upon which further light is about to be sought, be the principle of heat. The principle of heat may be called, for convenience, A. Few are entirely ignorant of the nature of heat. It is not long before children learn through hard experience that "Fire burns." What is known of heat may be called b, c, d, etc. Our knowledge of heat may then be expressed in the judgments, "A is b, c, d, etc." Now, it is known, not only that "A is b, c, d, etc.," but also that "A is not not-b, not-c, not-d, etc." The reference of b to A at once excludes the reference of the not-b to A. We have, then, implicit in the positive judgment "A is b," the negative judgment "A is not not-b." Besides this, the judgments "A is b," "A is c, etc.," are all categorical. From these categorical judgments as a starting point, we must reveal the process by which thought is enabled to add continually to its already existing content.

There is already deposited, as secured, the fact not only that "A is" but that "A is b, c, d." We have, moreover, the additional fact that, while "A is b, c, and d," the predicates b, c, and d do not exhaust A; *i. e.*, that A is not only b, c, and d, but something else as yet unknown. What A still further is we may proceed to discover. So far as known, A may be anything that is not already excluded by b, c, and d. It depends, that is, upon our knowledge of A, whether the number of possible predicates shall be many or few. If we have already a comparatively extensive

knowledge of A, then the possible predicates will be few, inas-much as b, c, and d are relatively rich. If, on the other hand, little is known of A, its possible predicates will be many, inas-much as b, c, and d are relatively poor. Let it be granted that our knowledge of A (and so of not-A) is such that there comes before us the judgment "A may be e, *and* f, *and* g, *etc.*" If this is the way in which our ignorance or partial knowledge presents itself, the solution is easy. "A may be e" means "A is either e or not-e," and we have before us at once a disjunctive judgment in its simplest form. A disjunctive judgment in its simplest form is one in which the predicates take upon themselves the character of exclusive alternatives. When it was experimented upon the A would be found to be either e or not-e. The next step would be to treat f as you have treated e, and so on until you have run over your whole stock of predicates. But if the judgment presents itself in the form of exclusion, viz.: "A is e, *or* f, *or* g, *or* h, *or* . . .," what then? It does not seem so simple a matter to reach the most elementary form of disjunctive judgment. When you say "A is e, *or* f, *or* g, *or* h," you mean that A is one of these, and only one; or, in other words, A is one and no other, *i. e.*, A is either e or not-e. In the very words, "A is e, *or* f, *or* g, *or* h," is implied the disjunctive judgment with exclusive alternatives. No advance can be made until you put your judgment either implicitly or explicitly into this form. When that is done, then you analyze or experiment upon A, and discover whether A is e or not. The judgment "A is e, *or* f, *or* g, *or* h *or* . . ." implies in the speaker a knowledge of e, and f, and g. His endeavor is, then, by a careful examination of A to find out with which of these A must coincide. You take the first. "A is e or not-e." Upon examination, you may come to any one of three conclusions. (a) You may fail in the tests you have applied to reach any positive knowledge with regard to A, and so assert, "I do not know;" but that cannot be a final conclusion. (b) You may find in A attributes which lead you to assert, "A is compatible with e." (c) Lastly, you may find in A attributes which demonstrate that A is incompatible with e. If (b) is the result, then you at once conclude "A is e," and you have reached your categorical. If (c) is the result, then you are only in a negative categorical position. A is not e. That leaves "A is f or not-f," or "A is g or not-g," to be tried in its

turn ; and so the process goes on. The most complicated result is certainly (c). If, then, we conclude A is not e, the whole of the next step would be as follows :

A is not-e.

Not-e is f, or g, or . . .

∴ A is f, or g, or . . .

By this means you have disposed of e entirely, are again at your starting-point, and are ready to deal with f as you have done with e.

But one naturally asks, When will the process be complete? When, in that way, do you reach a categorical? To obtain a correct answer it must be borne in mind, first, that the possible predicates are never an infinite number. The number of the predicates, as has been already remarked, is limited by what is known of A, and by what is known of not-A. The task is not, therefore, an endless one. A positive judgment will be reached when the predicates have been exhausted. In one sense, however, positive results are obtained before that point is reached. When it is found that A is not-e, for example, if not-e is anything positive (and if our lesson has been learned it cannot but be positive), by an additional judgment there is got a positive conclusion with regard to A, thus :

A is not-e.

Not-e is x, y, z, etc.

∴ A is x, y, z, etc.

But that is, so to speak, turning off from the highway ; that is fixing the attention on x, y, z, rather than the e, f, g. Our interest centres in the main proposition, "A is e, or f, or g, or . . .," and so the question is again asked, "When in this proposition do you reach a terminus?" Bradley here introduces a peculiar principle called by him "I must because I cannot otherwise." Supposing that e, f, and g are all the possible predicates, then Bradley means that when we discover that A is neither e nor f, we are forced into believing that "A must be g," because we have no other course open. That means that, whether we will or not, we are compelled to judge "A is g." That way of stating a theory, which contains the elements of truth, leads the reader to believe that the reaching of the categorical is, after all, but a leap in the dark. Bradley means that, if we only knew more, we might

perceive that the number of predicates of A were much larger than we had conceived, and that, in consequence, with greater knowledge we might find that A was not g at all, but something else. We concluded that A was g not because we had found qualities in each which render the judgment true, but only because in our short-sightedness we had failed to find any qualities in A and g which would render the judgment false. But Bradley is here in error. If e, f, and g are not all the possible predicates of A, then, when it is perceived that A is not e nor f, we do not assert that A is g. Certainly, any such conclusion would be wholly unwarranted. "g" must be dealt with in precisely the same manner as e and f. A and g are both summoned to appear for examination, and any one of three possible sentences may be pronounced upon them. These three have been already mentioned: (1) I cannot tell; (2) A is g; (3) A is not g. If by thorough examination it has been concluded that A is g, then the other predicates which at first presented themselves may now be dismissed. The reason why they can be dismissed now, when they could not have been dismissed before, is, that, since the judgment was set forth in full, our knowledge of A has been continually increasing. A time must come eventually when the candidates will not require to be heard *singulatim*, but may be set aside in batches. If, on the other hand, it is declared that A is not g, then other predicates must be searched for, and examination must be stayed till they are found. Never in the process, so far as I am able to see, do we light upon any such principle as, "I must because I cannot otherwise," if such a principle argues to the imbecility of reason. Indeed, if on examination it is discovered that g must be positively related to A, then we do pronounce "A is g" according to the rule "I must because I cannot otherwise." But the principle then only means that reason cannot contradict itself, or that reason must be rational. That reason cannot contradict itself is a mere truism, which has no particular applicability to any discussion. It would then be the strength and not the infirmity of reason to assert, "I must because I cannot otherwise." But, when Bradley says that it is owing to our ignorance that we announce such a rule, he has made this rather curious blunder. He has, in the first place, treated the proposition "A is e, or f, or g, or . . .," as if the predicates were exhaustive, has cut away e and

f, and then been compelled to assert the relation of g to A. When that was done, in the second place, he is suddenly startled with the astounding truth that he does not know everything, and that after all the predicates e, f, and g may not be exhaustive. He therefore concludes that it was owing to our ignorance that we judged "A is g." It is a pity that the conviction of his "ignorance" had not dawned upon him in time to prevent him from imagining at all that e, f, and g were exhaustive. If it had, then he might have seen that, without any positive evidence for the relating of g to A, reason would never have made the relation. Having trusted it formerly not to admit e without positive proof, he could not have been far astray in fancying that it would not be any more lenient in the case of g. His blunder was, after having assumed that e, f, and g were exhaustive, to turn right-about-face with no better reason than to insert his principle, "I must because I cannot otherwise."

This is in the rough an outline of the process through which thought goes in reaching a categorical judgment. In that process many things still remain implicit, and it will be necessary to return now to the disjunctive judgment. This can be done with a clear conscience, as it has been shown that the material of thought must be thrown into the form of a disjunctive judgment. Thought must go from the indefinite "A is e, or f, or g," to the definite A is e or not-e. In a few moments it will be seen that every advance, and this one among the number, is only possible through introduction of the hypothetical. At present, however, we have to finish with the disjunctive. Let this be the disjunctive judgment, "Heat is either a subtile substance or molecular motion." This cannot be final, for reason refuses to consider that a definition of heat. Reason asserts that it must be one, and proceeds to discover which one it is. In denying that a disjunctive judgment is final, reason works upon the principle that absolute contradictions cannot exist. If it were possible for two absolute contradictions to exist, the disjunctive judgment would be the only possible form of judgment. Bradley in some measure recognizes the truth of this theory. His own view concerning contradictions is as follows: "That disparates, or incompatibles, or contraries exist is the fact on which the principle of contradiction is based. It takes for granted the nature of things in which certain elements are

exclusive of others." This does not mean that two things can possibly be absolutely exclusive in the rigid sense of the word "exclusive." It does not mean that there are any two things which are wholly unrelated. Such a view is a contradiction in terms. First of all, if we say that two objects are mutually exclusive as regards space, and mean by that that two objects cannot occupy the same space at the same time, we are correct. One object occupies one space, and the second object occupies another. These two spaces may be one inch or one thousand miles apart. Yet, as each space is only a portion of space itself, each part of space is related to all other parts through the whole. It is not necessary to enter into any discussion concerning the nature of space. But it may safely be said that as a material object is not a material object unless it occupies space, so every material object is related to all others through the particular space occupied by each. The same holds true with regard to time. There is only one time, and all objects are in time. Accordingly, the principle might be adopted, as the other aspect of the one quoted from Bradley, "No two things that are comparable are wholly unlike or dissimilar, *i. e.*, wholly exclusive." The truth is, that the two things declared mutually exclusive are both in consciousness. Even if they did not possess anything else in common they do possess that, and cannot be, therefore, absolutely exclusive. But, possessing that, they possess more. Let us state the assertion and see what more they do actually possess in common. It is this: "Two things may be absolutely exclusive." First of all they are not absolutely exclusive, for both are related to the self. But apart from that let the statement be analyzed. It is "*two things* may be absolutely exclusive." Now, so far as each is called a thing (whether that thing be temporal or spiritual, material or immaterial) they are not mutually exclusive. Again, so far as this thing and that thing make *two* things they are related. Each is related to the whole as a unit. Each is one and therefore numerically related to the whole. But it may be argued that we have begged the question in stating the principle as "*two things* are mutually exclusive." Our opponents would rather say "A and B are mutually exclusive." Their design is palpable. They would empty the objects to be compared of all content. They understand that, just so far as we predicate anything of A or B, these

are not absolutely exclusive. So they assert A and B are absolutely exclusive, maintaining at the same time that A and B are void of all content. Without stopping to show that what is void of all meaning does not exist for consciousness at all, or in other words that what exists for consciousness must have more content than the bare abstraction of relation to consciousness, we will take our opponents on their own ground. Let us suppose A and B to be devoid of all meaning. Inasmuch as *both* are without meaning, both are alike in that respect. They are not mutually exclusive, because they are absolutely identical. This leads naturally to the other aspect of the truth, and that is that while there must be identity there cannot be mere identity. If A and B were utterly devoid of content, it would be nearer the mark to say not that they were absolutely opposed, but that they were absolutely identical. If each is utterly devoid of content, having no marks to distinguish it from the other, then both are one. But they cannot be utterly devoid of content. At least both are present to the self. It is this existing for consciousness which, while preserving the identity of A and B, at the same time preserves their difference. Identity is the permanent relation to consciousness. It cannot disappear, because consciousness cannot disappear. But, in preserving the relation of A and B to mind, we are compelled to preserve more. That is equally a necessity of reason. There can never be found the bare abstraction called relation to consciousness. *A thing* is not only related to consciousness, but it must be related to consciousness as a *thing*. A and B are not only related to consciousness but they are related to consciousness as A and B. When you have A and B related to consciousness you have their identity. But, as you must have them related to consciousness as A and B, you have their difference. Thus it is that you are perpetually disclosing the truth that identity and contradiction, permanence and change come and go together, and that it is just self-consciousness which, while it must make distinctions, is perpetually reconciling them.

From this it is apparent that, while relative contraries may exist, absolute contraries cannot exist. It is the nature of relative contraries to become absorbed in a higher unity. But the opposite aspect must also be insisted on, viz., that no two things can become a simple unity. It is impossible for relative contraries so

thoroughly to be merged in each other as to lose their individuality. The nature of the unity would in that case be a unity that excluded differences. But a unity that excludes differences is a total blank. Therefore, while we say that contradictories cannot be absolute, we say with equal force that relative contradictories must exist. In the judgment, then, "Heat is either a subtile substance or molecular motion," it may be said that, so far as the predicates "subtile substance" and "molecular motion" have attributes in common, heat is both. So far, however, as their attributes are opposed, heat must be one and not the other. Having reached this position, the next step is to state in order the points of agreement and the points of difference in the two predicates. Especial prominence is given to the points of difference. When that is done, you assert, by means of a hypothetical judgment, that if heat possesses such and such attributes it is molecular motion; if it does not possess them, it is not molecular motion. As the predicates of heat are considered exhaustive, not-molecular-motion is equivalent to subtile substance. By means of Analysis and Synthesis, *i. e.*, by various processes of judgment or inference, we discover what characteristics heat exactly has. If these attributes are possessed by one predicate to the exclusion of the other, we thus judge:

Heat has x, y, z, as attributes.

Molecular motion has x, y, z, as attributes.

\therefore Heat is molecular motion.

i. e., Heat is not a subtile substance.

Again there has been reached the categorical, which is at the same time affirmative and negative.

It is easily seen that, if attention is paid to the exact process which is performed in order to obtain a categorical, while the affirmative conclusion is definite, the negative implied in it is also definite. In the case of common every-day judgments the definite negative seems almost to disappear. In judging, for example, "It is a man," it would be difficult to assign as a negative any other judgment than "It is not not-man." In the case of well-known objects the contrast is so fleeting and so instantaneous that it becomes almost unconscious. If, however, the man were standing at a distance, in a field where there were a number of high stumps, then a careful examination would require to be made.

"It is a man" would then have as its negative "It is not a stump." When ordinary judgments are formed, it would seem that the negative is more indefinite in proportion as the positive is definite; but definite would only mean in such an assertion explicitly present to consciousness. In reality, the more definite the positive, the more definite is the negative. It would be an idle remark to maintain that the judgment "Heat is molecular motion" has as its negative Heat is not not-molecular motion, and say, because of that, that the positive judgment was, so to speak, a mere point, while the negative included the rest of the known universe. That overlooks the truth that molecular motion, equally with not-molecular motion, has its relations to the whole world. In one sense it may be that one judgment includes all possible judgments. But "includes" simply means "is related to." In the rigid meaning of include, one judgment cannot include any other judgment. The judgment Heat is not not-molecular motion is only rendered inclusive if Heat is not a subtile substance by another definite inference or judgment. To obtain this judgment a contrast is instituted between molecular motion and subtile substance, in which the variance between them becomes prominent.

The next topic is the hypothetical judgment. Hypothetical does not mean doubtful, but only conditional. Inasmuch as all knowledge is conditioned by the knowing subject, all knowledge must be hypothetical. We fix a judgment as hypothetical when we declare its conditions. "A is" is a declarative statement, or a categorical judgment, but that judgment leaves to be understood the conditions of A's existence. These conditions must be present, though unexpressed. When we bring to the front the conditions, and say, "A is on certain conditions," or, "Given such and such conditions and you have A," our judgment has become hypothetical. Bradley has done good service in showing that every judgment must be hypothetical because every statement must be conditional. His exposition of this subject is exceedingly good, and leaves little to be said. But one remark may be made. It has been shown that we advance from the body of truth to a new truth by various means. The way of advance is marked by many imaginary halting-places. Each of these halting-places means the insertion of a condition. Every condition, however, has been shown to be a necessity of reason. We have knowledge, but we

must increase our knowledge. Unless that is done, we cannot expect to arrive at new truth. The necessity for increasing knowledge is the first condition. Again, when there has been presented the judgment "A is e, or f, or g, or . . .", reason once more asserts that it is unsatisfied, and bids us advance. Its command is to select. What is selected is, from one point of view, arbitrary. The motive guiding the selection is, at least, extraneous to the question, but the selection is itself a necessity. Only on condition of such selection can advance be made. Thus, a new condition is introduced; our judgment has become more hypothetical, and yet the condition was a necessity of reason. There has been reached the judgment "A is e or not-e." Once again a condition is introduced, "If A has such and such attributes, it is e or not-e"; so that, by means of another necessary condition, by further hypothesis, we reach the categorical "A is e" or "A is not-e."

Little need be said of the categorical. It has been shown to imply all the rest. Pains has already been taken, likewise, to prove that a categorical judgment is either negative or affirmative, according to the point of view. Indeed it wholly depends upon the individual's point of view whether, in dealing with the disjunctive, he shall end with an affirmative or a negative categorical. Both the positive and the negative are implied from the outset.

Upon the nature of the distinction between the "possible," the "necessary," and the "actual," a word or two may be said in conclusion. In the judgment "A is e or not-e," both e and not-e are considered possible. Possible is a term wholly relative to our actual knowledge. It is only because we are to some extent ignorant of real A that the two possible predicates arise. The ignorance is, however, a necessary ignorance; so the possible, if we may so speak, is a necessary possible. Both e and not-e are possible at the stage of the disjunctive judgment. Soon we get beyond that stage. Examination is had upon A, and the possibility of the one predicate passes into probability, while the possibility of the other sinks into bare possibility, or, vulgarly speaking, something like one chance in ten. From the probability we go not directly to actual e, but to the sum or the totality of the conditions or relations which make e actual. It would seem that when we have recognized in A all the qualifications required for the assertion

of the actuality of A, we hesitate, and say first "A must be," and then "A is." But the true distinction between the necessary and the actual is not a difference in time. The true distinction is only a difference in the point of view. Let us illustrate. Suppose a number of people are searching for a missing child. They come first upon traces, then upon some article of clothing, then upon fresh footprints, indications which necessarily point to the child's immediate vicinity. The cry is raised, "It must be here." The next moment, "It is here, it is found." The illustration furnishes us with a fair idea of the difference between the necessary and the actual. But it has this defect, that it introduces the temporal element. Between the "must be" and the "is" there is no distinction of before and after. Apart from that, notice that the necessity rests upon sure indications of the child's proximity. It is the negative assertion almost that it is found. The indications at least proclaim that the child is nowhere else; and that is only the negative of the assertion "It is here."

A both exists and has relations. Looking at A in its positive aspect we would assert "A is." Looking at A in its negative aspect—or from the point of view of its relations—we would assert "A must be." These relations necessitate A's existence; *i. e.*, when we say, "A must be," we mean that these relations cannot point to anything else. "A must be" is equivalent to "B, or C, or D cannot be."

Last of all has come the categorical. It is the poorest or the richest form of judgment, according to your standpoint. As implying all the preceding, it is undoubtedly the richest. As in a sense rejecting all the preceding, it is the poorest. Acknowledging its connections it can occupy the loftiest seat. Disowning its connections it is scarcely worthy of a place at all. Looking at it in the latter aspect, Bradley says that the Analytic judgment of sense is the most meagre. But the former aspect is, from the standpoint of our whole exposition, probably the more correct. The goal has been reached, and, with new impulse and energy refreshed, thought is prepared to start again.